FemGV
User's Manual

Release Notes

Release 7.1

TNO DIANA BV / Femsys Ltd.

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User's Manual release 7.1
Release Notes

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Published by:
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Second edition, June 19, 2009.

This document was prepared with the LaTeX Document Preparation System.

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Preface

In this document, the new features of FemGV 7.1 compared to FemGV 7 are presented.

Chapter 1

Introduction

1.1 FemGV 7.1

The primary purpose of FemGV 7.1 has been to add frequency curve functionality. It also included fixes to problems with the previous versions.

Although FemGV 7.1 does not maintain backward compatibility with databases generated by previous versions of the program, an automatic database updating process is provided, and this can be selected interactively when an old model is accessed.

This document describes the new features of FemGV 7.1 and, where relevant, shows any new commands.

1.2 Release History

Table 1.1 shows the purpose and dates of all FemGV 7 releases

Table 1.1: Release history for FemGV 7

Release	Purpose	Data
7.1-02	Minor release	May 12, 2009
7.1-01	Minor release	July 11, 2008
7.0-07	Bug fix release	January 11, 2008
7.0-06	Bug fix release	March 23, 2007
7.0-05	Bug fix release	November 27, 2006
7.0-04	Major release	March 11, 2005

Chapter 2

Release 7.1-02

2.1 New functionality in FemGV 7.1-02

Table 2.1 lists the commands with new or modified functionality in FemGV 7.1-02 compared to FemGV 7.1-01.

Table 2.1: Commands with new or modified functionality

Command
RESULTS RANGE SURFACE
UTILITY OPTIONS TABULATE
UTILITY SETUP FEEDBACK
UTILITY TABULATE SETS

2.1.1 Results for Surface

The RESULTS RANGE SURFACE command enables you to select surfaces for which FemGV should display multi-surface analysis results. The option ALL to select all surfaces is, next to plotting graphs, now also appropriate for peak values, numerical values, discs, symbols, and vector plots. This functionality was already available in later versions of FemGV 7.1-01.

2.1.2 Customize Tabulation Area

Via the new UTILITY OPTIONS TABULATE HEADERS command you may control the output of headers to printfiles or the tabulation area. This functionality was already available in later versions of FemGV 7.1-01.

2.1.3 Feedback on Geometry

The UTILITY SETUP FEEDBACK command has been extended with the option to control the feedback while merging geometric parts. Furthermore, the use of the UTILITY SETUP FEEDBACK MESHING MERGE DIALOG has been extended so that it is always acted upon, regardless whether the merge is saved or not. This functionality was already available in later versions of FemGV 7.1-01.

2.1.4 Tabulate Sets

The UTILITY TABULATE SETS command has been extended with the option to tabulate the named sets to which a certain geometry part belongs. This functionality was already available in later versions of FemGV 7.1-01.

2.2 Abaqus

Support added for Abaqus 6.8-1.

Chapter 3

Release 7.1-01

3.1 New functionality in FemGV 7.1-01

Table 3.1 lists the commands with new or modified functionality in FemGV 7.1-01 compared to FemGV 7.0-07.

Table 3.1: Commands with new or modified functionality

Command
CONSTRUCT FCURVE
PROPERTY ATTACH FCURVE
RESULTS RANGE SURFACE
UTILITY DELETE FCURVE
UTILITY GRAPH FCURVE
UTILITY OPTIONS TABULATE
UTILITY SETUP FEEDBACK
UTILITY TABULATE FCURVE
UTILITY TABULATE SETS

3.1.1 Frequency Curve

The FCURVE option defines a frequency curve in terms of an amplitude as a function of frequency. With this option, you specify the curve either with a predefined function and a few parameters, or as a list of frequency–amplitude pairs. You may attach a frequency curve to a load via the PROPERTY ATTACH FCURVE command, thus specifying the variation of the magnitude of a load during the analysis.

3.1.2 Results for Surface

The RESULTS RANGE SURFACE command enables you to select surfaces for which FemGV should display multi-surface analysis results. The option ALL to select all surfaces is, next to plotting graphs, now also appropriate for peak values, numerical values, discs, symbols, and vector plots.

3.1.3 Customize Tabulation Area

Via the new UTILITY OPTIONS TABULATE HEADERS command you may control the output of headers to printfiles or the tabulation area.

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The UTILITY SETUP FEEDBACK command has been extended with the option to control the feedback while merging geometric parts. Furthermore, the use of the UTILITY SETUP FEEDBACK MESHING MERGE DIALOG has been extended so that it is always acted upon, regardless whether the merge is saved or not.

3.1.5 Tabulate Sets

The UTILITY TABULATE SETS command has been extended with the option to tabulate the named sets to which a certain geometry part belongs.

3.2 Contents of the distribution CD

The following entries exist on the FemGV distribution CD.

Table 3.2: Contents of Windows distribution CD

Name	Description
Documentation	Manuals in HTML and PDF format.
Hasp	Installation of HASP HL driver for Windows 32 bit and x64 edition. For use with HASP HL dongles.
Sentinel	Installation of Sentinel software for Windows 32 bit. For use with Sentinel dongles.
Femgv71.msi	FemGV for Windows 32 bit distribution.
Femgv71_64.msi	FemGV for Windows x64 edition distribution.
Setup.exe	Installation program.

Table 3.3: Contents of UNIX distribution CD

Name	Description
Documentation	Manuals in HTML and PDF format.
Packages	All FemGV 7.1 UNIX distributions in subdirectories.
Install	Installation script that will automatically select the appropriate FemGV for UNIX distribution for your system.

Chapter 4

Release 7.0-07

4.1 New commands in FemGV 7.0-07

Table 4.1 lists the commands added in FemGV 7.0-07 compared to FemGV 7.0-06.

Table 4.1: New commands in FemGV 7.0-07

Command
PRESENT OPTIONS VECTORS MODULATE ZERO
VIEW DEVEL

4.1.1 Vector Plots

Color modulation. The command PRESENT OPTIONS VECTORS MODULATE ZERO now allows to view vector plots with different colors for negative and positive values.

Developed view. Vector plots can now also be displayed on development views when using the command VIEW DEVEL.

4.2 Abaqus

Support added for Abaqus 6.7-1.

4.3 CADfix

The CADfix library has been updated to version 7.0 SP3, supporting many new releases of CAD programs.

4.4 Bug Fixes

- RESULTS CALCULATE incorrect for hydrostatic pressure.
- Can't SWEEP points or lines with 2D license.
- CONSTRUCT SET APPEND with limits caused crash on 64 bit platforms.
- PROPERTY ATTACH not working with pre-7.0-05 model.
- Commands with spurious trailing numeric parameters cause crash.
- FEMGV interface can't read materials file from another directory.
- File → Print gives nasty ragged border.
- Appending to set with attached reinforcements cause crash.
- Garbled text in menus on 64 bit Linux.
- GEOMETRY SURFACE REGION <surf> crash if <surf> not valid surface.
- Calculation of ellipse length incorrect.
- Added File → Run → FEMGV Demo.
- Attachment of CSYST lost when moving body/surface.
- Model Navigator Option pop-up menu not working on Linux.
- UTILITY READ DXF creates a model with no model type.

Chapter 5

Release 7.0-06

5.1 Supported Platforms

Added: FemGV for Windows x64 edition.

Added: FemGV for RedHat Enterprise Linux 5.0 x86_64.

Removed: FemGV for IBM POWER5/AIX 5.1.

Removed: FemGV for RedHat Enterprise Linux 3.0 i386.

5.2 Abaqus

Support added for Abaqus 6.6-1. Old Abaqus .FIL format no longer supported.

5.3 Compilers

Intel Visual Fortran 9.1 compiler is now used to build Windows versions. This was needed to support Abaqus 6.6-1.

5.4 Bug Fixes

- IGES filename too long for import.
- Animate loadcases - limit exceeded.
- UTITLITY TABULATE RESULT POINT crash if SIGNIF > 4.
- Program crash creating GEOMETRY BODY SETS.

5.5 Contents of the distribution CD

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Sentinel	Installation of Sentinel software for Windows 32 bit. For use with Sentinel dongles.
Femgv7.msi	FemGV for Windows 32 bit distribution.
Femgv7_64.msi	FemGV for Windows x64 edition distribution.
Setup.exe	Installation program.

Table 5.2: Contents of UNIX distribution CD

Name	Description
Documentation	Manuals in HTML and PDF format.
Packages	All FemGV 7 UNIX distributions in subdirectories.
Install	Installation script that will automatically select the appropriate FemGV for UNIX distribution for your system.

Chapter 6

Release 7.0-05

6.1 Abaqus

Support added for Abaqus 6.5-4.

6.2 Bug Fixes

- UTILITY NAME failed for reinforcement sets.
- Error displaying thickness of shell and plate elements.
- Command browser not expanding Results → Loadcase.
- Can't perform dynamic rotation whilst in FEMGEN pick mode.
- Unable to read archive files in append mode.
- Problem with P-SHEAR calculation.
- Problem with RESULTS CALCULATE VON MISES STRAIN.
- Problem with UMAX in CONSTRUCT SET APPEND NODE/ELEM LIMITS.
- Current working directory not displayed in Window title bar.
- Unable to see cross-hair when UTILITY SETUP COLOUR INVERT used.
- Slow running when using USB dongle.
- PROPERTY BOUNDARY MPC RBODY does not work with sets.
- Increased number of characters for external file pathnames.
- UTILITY GRAPH EXTERNAL column selection bug.
- Command interrupt failed on Windows.

- Command spawning failed on Windows.
- DEFINE REINFORCE BAR ELEMENTS caused program to hang.
- Some error message strings were truncated.
- Incorrect display of external temperature loads.
- Bug when exporting shapes out of FEMGEN.
- CONSTRUCT SET APPEND silently truncates input to 10 items.
- Several file opening problems with Linux.
- No desktop icon for PostAbaqusQT.
- Rotate, zoom and pan cursors were missing.
- Output format of Abaqus Acoustic properties incorrect.
- Automatic meshing silently create hole in mesh for certain paving options.
- Incorrect cursor was displayed after graphical input.
- Display of loads loaded by pressure load are incorrect.
- Drawing animate loadcases - speed slider problem.
- Crash caused by UTILITY SETUP ANIMATION EXIT with IVF compiler.
- PROPERTY FE-PROG causing crash on 64 bit Linux.
- FILE CLOSE from Command Browser incorrect.
- RESULTS CALCULATE INTEGRATE SURFACE bug.
- Limit of 999 Physical Properties.
- Arrow heads too small.

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Page numbers. Bold face numbers indicate pages with formal information about the entry, e.g., a syntax description (**36**). Italic numbers point to an instructive example of how the concept in question might be used (*132*). Underlined numbers refer to theoretical backgrounds on the subject (95).

Keywords. Sans serif type style refers to the interactive interface (EYE). Typewriter style refers to the batch interface (YOUNG).